reaches the smoke flue connection. The relative difference in the density of the gases at these two points is as great as the difference in density of wood and granite, and it is a matter of common knowledge that granite will sink in water while wood will float. In the same manner the hottest gases will tend to float above cooler gases. Convection currents and conduction will naturally

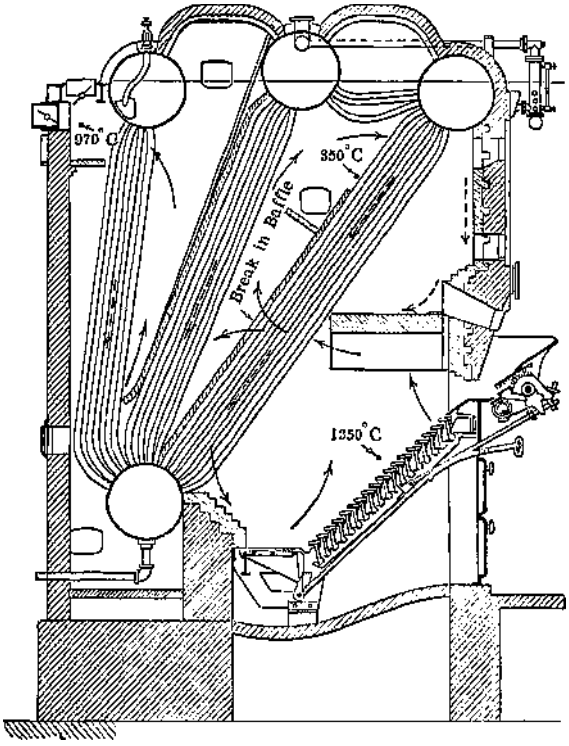

FIG. 169.—Diagram of Gas Flow in Stirling Boiler with Broken Baffle.

tend to equalize the extreme temperature differences, if the supply, of heated gases is not maintained, but equalization in this manner would be comparatively slow.

Fig. 168 shows the type of boiler with the broken baffle, baffled according to the builder's catalogue with arrows to show the circulation of the gases. The heated gases rising from the